

# PROVINCE OF MANITOBA

# DEPARTMENT OF MINES AND NATURAL RESOURCES

STUART ANDERSON
Deputy Minister

HON. STERLING R. LYON, Q.C. Minister

MINES BRANCH

J. S. RICHARDS Director

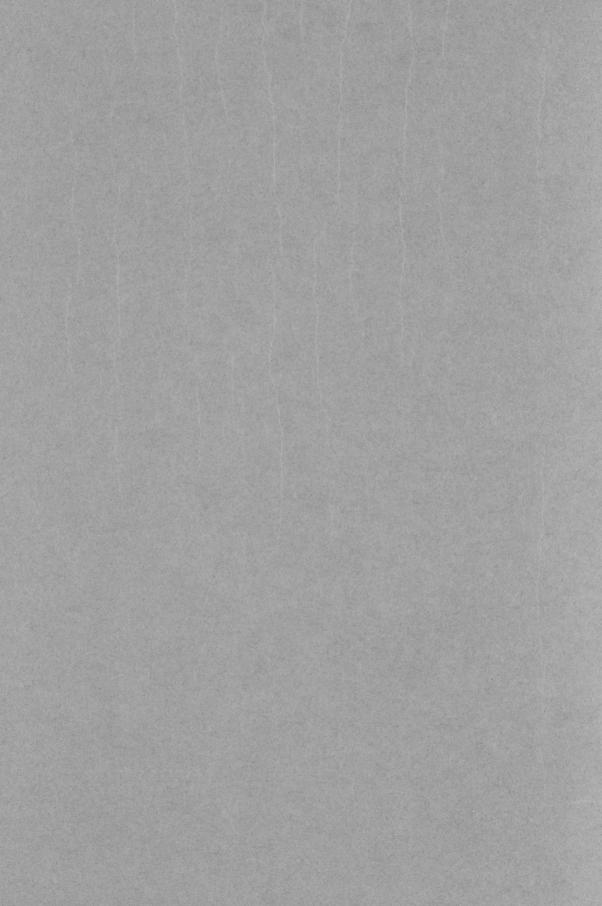
PUBLICATION 66-1

BIBLIOGRAPHY OF

# GEOLOGY, PALAEONTOLOGY, INDUSTRIAL MINERALS, AND FUELS IN THE POST-CAMBRIAN REGIONS OF MANITOBA

1958 TO 1965

Compiled by B. B. BANNATYNE





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# PREFACE

This bibliography, containing a list of reports describing various aspects of the geology of Manitoba, exclusive of the Precambrian Shield area, covers the period from 1958 to 1965. It is supplementary to two previous similar reports, Publications 57-4 (1950 to 1957) and 51-2 (to 1950). A few articles omitted from the previous bibliographies are included. Comparable bibliographies of Precambrian geology are available (Publications 57-3, and 51-1).

The bibliography has been divided into three parts. In Part I, major references are indexed according to author in alphabetical order. For each reference, the author date, title of the article, publication, and page numbers are given.

In Part II, the references listed in Part I are indexed according to subject matter. Only the author's name and title of the article are given; for the complete reference, Part I should be consulted.

Part III contains other reports on the post-Cambrian geology of Manitoba not included in Parts I and II. Such articles as annual government reports, abstracts, progress reports, trade journal articles, and other reports which contain brief references to Manitoba geology are listed. These articles are listed under subject headings, by author or publication in alphabetical order; these articles are not included in either Part I or Part II. Special sections in Part III include lists of a new series of stratigraphic maps, articles on the Hudson Bay Lowlands and Hudson Bay area, articles on radiocarbon dates, and Precambrian maps that include marginal areas of Palaeozoic sedimentary rocks.

It is probable that some articles that should have been included in the present bibliography have been omitted. It will be appreciated if such omissions are brought to the attention of the Manitoba Mines Branch.

This bibliography has been prepared by Barry B. Bannatyne with the assistance of Irma Koberstein. Grateful acknowledgement is made of the kind assistance offered by the staff of the Elizabeth Dafoe Library of the University of Manitoba.



# LIST OF PUBLICATIONS AND ABBREVIATIONS

Alta. Soc. Petrol. Geol.; Jour. — Alberta Society of Petroleum Geologists; Journal. Calgary, Alberta.

Amer. Assoc. Petrol. Geol.; Bull. — American Association of Petroleum Geologists; Bulletin. Tulsa, Oklahoma.

Amer. Jour. Science — American Journal of Science. New Haven, Connecticut.

Arctic — Arctic; Journal of the Institute, New York.

Bedford Institute of Oceanography. Dartmouth, Nova Scotia.

Billings Geol. Soc. Guidebook, Annual Field Confrence — Billings Geological Society. Billings, Montana.

Bull. Can. Petrol. Geol. — Bulletin of Canadian Petroleum Geology (formerly "Journal of the Alberta Society of Petroleum Geologists"). Calgary, Alberta.

Canadian Geotechnical Journal. Toronto, Ontario.

CIMM 6th Commonwealth Min. and Met. Congress — Canadian Institute of Mining and Metallurgy Sixth Commonwealth Mining and Metallurgical Congress. Montreal, Quebec.

Canadian Journal Agricultural Science. Ottawa, Canada.

Canadian Jour. Botany — Canadian Journal of Botany. Ottawa, Canada.

Can. Min. Journ. — Canadian Mining Journal. Gardenvale, Quebec.

Can. Min. Met. Bull. — The Canadian Mining and Metallurgical Bulletin. Montreal, Quebec.

Canadian Oil and Gas Industries. Gardenvale, Quebec.

Canadian Pit and Quarry. Gardenvale, Quebec.

Clays and Clay Minerals. Permagon Press, New York.

Dissertation Abstracts. Ann Arbor, Michigan.

Ecology. Brooklyn, New York.

Economic Geology. Lancaster, Pennsylvania.

Geographical Bull. — Geographical Bulletin. Ottawa, Canada.

Geol. Assoc. Canada — Geological Association of Canada. Toronto, Ontario.

Geology Club Journal. University of Manitoba, Winnipeg.

Geol. Mag. — Geological Magazine. Hertford, England.

Geol. Soc. Amer.; Bull.; Memoir; Special Paper — Geological Society of America; Bulletin; Memoir; Special Paper. New York, New York.

Geol. Surv. Canada; Bull.; Catalogue; Econ. Geol. Series; Map; Memoir; Misc. Rept.; Paper — Geological Survey of Canada; Bulletin; Catalogue; Economic Geology Series; Map; Memoir; Miscellaneous Report; Paper. Ottawa, Canada.

Geophysics. Houston, Texas.

Illinois State Geological Survey; Bulletin. Urbana, Illinois.

Jour. Can. Ceram. Soc. — Journal of the Canadian Ceramic Society. Burlington, Ontario.

Jour. Geol. — Journal of Geology. Chicago, Illinois.

Jour. Hydrology — Journal of Hydrology. Amsterdam, The Netherlands.

Jour. Paleontology — Journal of Paleontology. Tulsa, Oklahoma.

Manitoba Dept. of Industry and Commerce; Bulletin. Winnipeg, Manitoba.

Manitoba Mines Branch Pub. — Manitoba Department of Mines and Natural Resources, Mines Branch, Publication. Winnipeg, Manitoba.

Manitoba Soil Survey, Soils Report. Available: Manitoba Department of Agriculture and Conservation. Winnipeg, Manitoba.

McGill University, Museums Pub. — McGill University, Museums Publication. Montreal, Quebec.

Mineral Resources Division, Ottawa; Mineral Reports; Mineral Information Bulletin. Ottawa, Canada.

Mines Branch, Canada; Rept.; Investigation Report; Monograph; Information Circular. Ottawa, Canada.

Mining in Canada (formerly "Precambrian"). Winnipeg, Manitoba.

Natl. Museum Canada; Bull. — National Museum of Canada; Bulletin. Ottawa, Ontario.

Natl. Research Council (N.R.C.) Canada; Assoc. Com. on Soil and Snow Mechanics, Tech. Mem. — National Research Council of Canada; Associate Committee on Soil and Snow Mechanics; Technical Memorandum. Ottawa, Canada.

N. Dak. Geol. Soc. — North Dakota Geological Society. Bismarck, North Dakota.

N. Dak. Geol. Surv.; Misc. Series — North Dakota Geological Survey; Miscellaneous Series. Grand Forks, North Dakota.

Oilweek. Calgary, Alberta.

Oil in Canada. Calgary, Alberta.

Ont. Dept. of Mines — Ontario Department of Mines. Toronto, Ontario.

Precambrian. Winnipeg, Manitoba.

Roads and Engineering Construction. Toronto, Ontario.

Roy. Soc. Canada; Trans.; Special Pub. — Royal Society of Canada; Transactions; Special Publications. Ottawa, Canada.

Saskatchewan Dept. of Mineral Resources — Saskatchewan Department of Mineral Resources. Regina, Saskatchewan.

Sask. Geol. Soc.; Rept. — Saskatchewan Geological Society, Report. Regina, Saskatchewan.

Science. Washington, D.C.

The Northern Ohio Geological Society, Inc. Cleveland, Ohio.

21st Internat. Geol. Cong. — Twenty-First International Geological Congress. Copenhagen, Denmark.

Water Control and Conservation Branch, Department of Agriculture and Conservation. Winnipeg, Manitoba.

Western Miner. Vancouver, British Columbia.

World Oil. Houston, Texas.

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# PART II

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(1963): Surficial Geology, Riding Mountain, Manitoba.

(1965): The Surficial Geology of the Riding Mountain Area (Manitoba-Saskatchewan).

(1966): Surficial Geology, Riding Mountain, Manitoba-Saskatchewan.

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(1958): (and Colton, R. B.). Summary of the Pleistocene Geology of North Dakota.

(1960): Geology of the Souris River area.

Love, Doris

(1959): The Postglacial Development of the Flora of Manitoba; a Discussion.

MACNEISH, RICHARD S.

(1958): An Introduction to the Archaeology of Southeast Manitoba.

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(1947): The Life History of Lake Agassiz: Alternative Interpretation.

Russell. George A.

(1965): Subsurface Geology of Metropolitan Winnipeg.

TAYLOR, F. C.

(1961): Interglacial (?) Conglomerate in Northern Manitoba, Canada.

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(1965): Differential Thermal Analysis of the Sediments of the Lake Agassiz Basin in Metropolitan Winnipeg, Manitoba.

ZOLTAI, S. C.

(1962): Glacial History of Part of Northwestern Ontario.

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GREENLEE, ARTHUR

(1942): Geology of the Turtle Mountains of North Dakota and Manitoba.

LEMKE, R. W.

(1960): Geology of the Souris River Area, North Dakota.

TAYLOR, R. S. et al.

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### MESOZOIC

Cretaceous

BANNATYNE, BARRY B.

(1963): Cretaceous Bentonite Deposits of Manitoba.

GILL, JAMES R. and COBBAN, W. A.

(1965): Stratigraphy of the Pierre Shale, Valley City and Pembina Mountain Areas, North Dakota.

Loranger, D. M.

(1960): Jurassic-Cretaceous Boundary in Western Canada.

PRICE, LEON L.

(1963): Lower Cretaceous Rocks of Southeastern Saskatchewan.

(1963): Structure Contours of Base of Favel Formation, Southwestern Manitoba.

ROUSELL, D. H.

(1956): The Blairmore Formation of Southern Saskatchewan.

RUDKIN, R. ALAN

(1964): Lower Cretaceous, Chapter 11, in: Geological History of Western Canada.

Russell, Loris S.

(1939): Land and Sea Movements in the Late Cretaceous of Western Canada.

WARD, WILLIAM JAMES

(1962): The Colorado Group in Southwestern Saskatchewan.

WILLIAMS, G. P. and BURK, C. F. Jr.

(1964): Upper Cretaceous, Chapter 12, in: Geological History of Western Canada.

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CHAMNEY, T. P.

(1958): Isometric Panel Diagram — Jurassic System.

KLINGSPOR, A. M.

(1958): Jurassic Stratigraphy of the Sweetgrass Arch — Manitoba Section.

Lambo, W. A.

(1964): Geology of the Silver Plains Gypsum Deposit.

Peterson, James A.

(1957): Marine Jurassic of Northern Rocky Mountains and Williston Basin.

Springer, G. D. et al.

(1964): Jurassic, Chapter 10, in: Geological History of Western Canada.

STOREY, T. P.

(1958): Jurassic of the Williston Basin and Adjacent Areas.

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(1959): Separation of Strata: Falaeozoic Limestones of the Williston Basin.

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(1961): Small Pseudochitinous and Resinous Microfossils: New Tools for the Subsurface Geologist.

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(1964): Regional Framework of Paleozoic Sedimentation in Western Canada and Northwestern United States.

PORTER, J. W. and FULLER, J. G. C. M.

(1958): Succession of Lower Paleozoic Rocks in the Northern Part of the Williston Basin.

(1959): Lower Paleozoic Rocks of Northern Williston Basin and Adjacent Areas.

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(1958): Report of the Lower Palaeozoic Names and Correlations Committee

SCHULTZ, E. H.

(1958): The Ordovician-Silurian Contact in the Williston Basin.

SPROULE, J. C. and Associates Ltd.

(1964): The Oil and Gas Prospects of the Pre-Mississippian Sedimentary Rocks of Southern Manitoba.

VAN HEES, H.

(1958): The Meadow Lake Escarpment — Its Regional Significance to Lower Palaeozoic Stratigraphy

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Edie, R. W.

(1958): Mississippian Sedimentation and Oil Fields in Southeastern Saskatchewan.

MACAULEY, G. et al.

(1964): Carboniferous, Chapter 7, in: Geological History of Western Canada.

McCabe, Hugh R.

(1959): Mississippian Stratigraphy of Manitoba.

(1961): Regional Stratigraphic Analysis of the Mississippian Madison Group, Williston Basin Area.

(1963): Mississippian Oil Fields of Southwestern Manitoba.

PORTER, J. W.

(1958): Madison Complex in Southeastern Saskatchewan-Southwestern Manitoba.

Pye, W. D.

(1958): Habitat of Oil in Northern Great Plains and Rocky Mountains.

SMITH, G. W.

(1958): Mississippian Oil Reservoirs in Williston Basin.

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(1958): Stratigraphy of the Lodgepole Formation, Virden-Whitewater Area, Manitoba.

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BELYEA. HELEN R. et al.

(1964): Upper Devonian, Chapter 6, in: Geological History of Western Canada.

CRICKMAY, C. H.

(1961): The Misinterpreted Middle Devonian of Saskatchewan.

Edie, R. W.

(1959): Middle Devonian Sedimentation and Oil Possibilities, Central Saskatchewan, Canada.

Fuller, J. G. C. M. and Porter, J. W.

(1962): Profile and Stratigraphic Cross-Sections of Devonian Strata in the Northern Great Plains Basin between Central Alberta and Eastern North Dakota.

Grayston, L. D. et al.

(1964): Middle Devonian, Chapter 5, in: Geological History of Western Canada.

KENT, D. M.

(1964): The Geological History of the Devonian System in the Northern Great Plains.

McKennitt, Douglas Barry

(1961): The Middle Devonian Elk Point Group in Manitoba.

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(1961): Stratigraphy of the Williston Pasin Devonian System.

SANDBERG, C. A. and HAMMOND, C. R.

(1958): Devonian System in Williston Basin and Central Montana.

WARREN, P. S. and STELCK, C. R.

(1962): Western Canadian Givetian.

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Andrichuk, J. M.

(1959): Ordovician and Silurian Stratigraphy and Sedimentation in Southern Manitoba, Canada.

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(1962): Cambrian, Ordovician and Silurian Formations of the Northern Great Plains, and their Regional Connections.

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(1964): Hydrogeology at a Hydroelectric Installation on Paleozoic Dolomites at Grand Rapids, Manitoba.

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(1964): The Stratigraphy of the Interlake Group (Silurian) in Manitoba.

(1964): The Silurian Interlake Group.

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(1964): Ordovician-Silurian, Chapter 4, in: Geological History of Western Canada.

### Ordovician

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(1959): Ordovician and Silurian Stratigraphy and Sedimentation in Southern Manitoba, Canada.

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(1958): The Stratigraphy of the Deadwood-Winnipeg Interval in North Dakota and Northwestern South Dakota.

(1960): Stratigraphy of the Winnipeg and Deadwood Formations in North Dakota.

(1964): Facies Relationships of the Winnipeg Group in Eastern North Dakota.

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(1960): The Red River Formation in Saskatchewan and Manitoba, a Structural and Stratigraphic Interpretation.

Fuller, J. G. C. M.

(1961): Ordovician and Contiguous Formations in North Dakota, South Dakota, Montana, and Adjoining Areas of Canada and United States.

(1962): (and Porter, J. W.). Cambrian, Ordovician and Silurian Formations of the Northern Great Plains, and their Regional Connections.

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(1965): Stony Mountain Shale Member or Gunn Member.

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(1964): Ordovician Stratigraphy of Northern Hudson Bay Lowland, Manitoba.

Patterson, J. R.

(1961): Ordovician Stratigraphy and Correlations in North America.

PORTER, J. W. et al.

(1964): Ordovician-Silurian, Chapter 4, in: Geological History of Western Canada.

POTTER, R. R.

(1962): Gods River Map-Area, Manitoba.

SINCLAIR, G. WINSTON

(1958): (and Leith, Edward I.). New Name for an Ordovician Shale in Manitoba.

(1959): Succession of Ordovician Rocks in Southern Manitoba.

SMITH, DONALD LEIGH

(1964): A Lithologic Study of the Stony Mountain and Stonewall Formations in Southern Manitoba.

TWENHOFEL, W. H. et al.

(1954): Correlation of the Ordovician Formations of North America.

### Cambrian

Fuller, J. G. C. M. and Porter, J. W.

(1962): Cambrian, Ordovician and Silurian Formations of the Northern Great Plains, and their Regional Connections.

VAN HEES, H. and NORTH, F. K.

(1964): Cambrian, Chapter 3, in: Geological History of Western Canada.

### PRECAMBRIAN

Ambrose, J. W.

(1964): Exhumed Paleoplains of the Precambrian Shield of North America.

Burwash, R. A. et al.

(1964): Precambrian, Chapter 2, in: Geological History of Western Canada.

HAITES, T. B.

(1960): Transcurrent Faults in Wes'ern Canada.

MEEK, K. S. Jr.

(1958): Precambrian of the Canadian Williston Basin.

PETERMAN, Z. E.

(1962): Precambrian Basement of Saskatchewan and Manitoba.

SPROULE, J. C.

(1962): The Tectonics of the Canadian Shield and Adjoining Sedimentary Basins in Relation to Oil and Gas Occurrences.

STOCKWELL, C. H.

(1965): Structural Trends in Canadian Shield.

# INDUSTRIAL MINERALS

BANNATYNE, BARRY B.

(1959): Gypsum-Anhydrite Deposits of Manitoba.

(1960): Potash Deposits, Rock Salt, and Brines in Manitoba.

(1963): Cretaceous Bentonite Deposits of Manitoba.

(1964): Preliminary Survey of Bogs for Peat Moss in Southeastern Manitoba.

Brady, J. G.

(1957): Physical Properties and Differential Thermal Analysis of some Canadian Clays and Shales.

(1960): Preliminary Evaluation of Clays and Shales for Clay Products. (1961): The Nature and Properties of some Western Canada Clays.

Brownell, G. M.

(1957): The Amaranth Deposit of Western Gypsum Products Ltd.

(1957): The Gypsumville, Manitoba Deposit of Gypsum, Lime and Alabastine, Canada, Ltd.

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(1957): Limestone, Shale and Clay Deposits of Canada Cement Company Limited.

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(1959): Industrial Minerals in Manitoba: Production and Utilization.

DAVIES, J. F. et al.

(1962): Geology and Mineral Resources of Manitoba.

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(1929): An Investigation on the Treatment of Certain Western Clays to Overcome Drying Defects.

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(1936): Natural Bonded Moulding Sands of Canada.

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(1957): Limestone.

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(1964): Geology of the Silver Plains Gypsum Deposit.

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(1958): Bentonite in Manitoba.

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(1957): Clays and Shales of Western Canada.

MAXWELL, J. A. et al.

(1965): Chemical Analyses of Canadian Rocks, Minerals, and Ores.

Pearson, W. J.

(1963): Salt Deposits of Canada.

(1965): Geology of Saskatchewan Potash Deposits.

Ross, J. S.

(1962): (and Buchanan, R. M.). An Investigation of Bentonites from Southern Manitoba.

(1964): Bentonite in Canada.

Tomkins, R. V.

(1957): Potash.

(1962): Canadian Potash — The World's Future Supply of a Vital Mineral.

WALLACE, R. C. and McCartney, G. C.

(1928): Heavy Minerals in Sand Horizons in Manitoba and Eastern Saskatchewan.

Wells, J. W.

(1905): Preliminary Report on the Raw Materials, Manufacture and Uses of Hydraulic Cements in Manitoba.

### PALAEONTOLOGY

Bell, W. A.

(1962): Catalogue of Types and Figured Specimens of Fossil Plants in the Geological Survey of Canada Collections.

BOLTON, T. E.

(1960): Catalogue of Type Invertebrate Fossils of the Geological Survey

of Canada, Volume I. Catalogue of Type Invertebrate Fossils of the Geological Survey (1965): of Canada, Volume II.

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(1960): The Faunas of the Lower Palaeozoic Carbonate Rocks in the Subsurface of Saskatchewan.

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(1965): A new Scaphite from the Campanian Rocks of the Western Interior of North America.

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(1960): Studies of the Western Canada Stringocephalinae.

ETHINGTON, R. L. and FURNISH, W. M.

(1959): Ordovician Conodonts from Northern Manitoba.

(1960): Upper Ordovician Conodonts from Southern Manitoba.

FRITZ, MADELINE A.

(1964): ?Scutellum Regale (Sp. Nov. Fritz) from the Silurian of the Hudson Bay Area.

JODRY, RICHARD L. and CAMPEAU, DONALD E.

(1961): Small Pseudochitinous and Resinous Microfossils: New Tools for the Subsurface Geologist.

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(1958): Mississippian Micropalaeontology applied to the Western Canada Basin.

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(1959): Fauna of the Manitoba Group, from Manitoba, Canada.

(1960): Fauna of the Manitoba Group in Manitoba.

McLaren, D. J. et al.

(1962): Illustrations of Canadian Fossils: Devonian of Western Canada.

Mozley, Alan

(1928): Post-Glacial Fossil Mollusca from a Delta Deposit at Winnipeg, Manitoba.

(1934): Post-Glacial Fossil Mollusca in Western Canada.

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(1959): Arctic Ordovician Fauna: an Equatorial Assemblage?

Guide Fossils of the Red River and Stony Mountain Equivalents (1959):(Ordovician).

(1963): Ordovician Paleontology of the Northern Hudson Bay Lowland.

(1965): Field Methods in Palaeontology.

OBERG, ROLLAND

(1964): The Conodont Fauna of the Winnipeg Formation (Ordovician) in the Type Area (Manitoba).

Russell, Loris S.

(1935): A Pleisiosaur from the Upper Cretaceous of Manitoba.

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(1961): Notes on some Ordovician Corals.

TEMPLETON, J. S. and WILLMAN, H. B.

(1963): Champlainian Series (Middle Ordovician) in Illinois.

WARREN, P. S. and STELCK, C. R.

(1962): Western Canadian Givetian.

### PETROLEUM

Alberta Society of Petroleum Geologists

(1956): Geographical and Geological Distribution of Oil and Gas in Canada.

BAKER, BRUCE L. and Hodgson, Gordon W.

(1959): Magnesium in Crude Oils of Western Canada.

DARLING, G. B. and WOOD, P. W. J.

(1958): Habitat of Oil in the Canadian Portion of Williston Basin.

Davies, J. F. et al.

(1962): Geology and Mineral Resources of Manitoba.

HITCHON, BRIAN et al.

(1961): Effect of Regional Variations of Crude Oil and Reservoir Characteristics on *in situ* Combustion and Miscible-Phase Recovery of Oil in Western Canada.

(1964): Formation Fluids, Chapter 15, in: Geological History of Western Canada.

MacLean, Brian

(1965): Saskatchewan and Western Manitoba Showing Oil and Gas Fields and Oil and Gas Discoveries.

Mollard, J. D.

(1958): Photogeophysics: Its Application in Petroleum Exploration over the Glaciated Plains of Western Canada.

SMITH, G. W. et al.

(1958): Mississippian Oil Reservoirs in Williston Basin.

SPROULE, J. C.

(1958): Petroleum and Natural Gas Prospects of Mississippian and Jurassic of Western Canada.

(1962): The Tectonics of the Canadian Shield and Adjoining Sedimentary Basins in Relation to Oil and Gas Occurrences.

(1964): (and Associates Ltd.). The Oil and Gas Prospects of the Pre-Mississippian Sedimentary Rocks of Southern Manitoba.

### SOILS

BANNATYNE, BARRY B.

(1964): Preliminary Survey of Bogs for Peat Moss in Southeastern Manitoba.

EHRLICH, W. A. et al.

(1956): Reconnaissance Soil Survey of Rossburn and Virden Map Sheet Areas.

(1957): Reconnaissance Soil Survey of Carberry Map Sheet Area. (1958): Reconnaissance Soil Survey of West-Lake Map Sheet Area.

(1959): Reconnaissance Soil Survey of Grandview Map Sheet Area.

(1959): Soil Survey of a Cross-Section through the Upper Nelson River Basin along the Hudson Bay Railway in Northern Manitoba. (1960): Detailed Soil Survey of Pasquia Map Area in Northern Manitoba. (1962): Detailed-Reconnaissance Soil Survey of Swan River Map Sheet Area.

Elson, J. H.

(1961): Soils of the Lake Agassiz Region.

LOVERING, J. H.

(1962): Regional Geography of the Whitemouth Valley, Manitoba.

(1963): Land Utilization in the Whitemouth River Valley.

Pratt, L. E. et al.

(1961): Detailed-Reconnaissance Soil Survey of Fisher and Teulon Map Sheet Areas

Prest, V. K.

(1961): Geology of the Soils of Canada.

Russell, G. A.

(1965): A River Bank Failure in Metropolitan Winipeg.

SMITH, R. E. and EHRLICH, W. A.

(1964): Soil Survey of the South-Eastern Map Sheet Area.

### WATER SUPPLY

Brown, I. C.

(1963): Chemical Methods as an Aid to Hydrogeology.

Charron, J. E.

(1961): Ground-Water Resources of Plum Coulee Area, Manitoba.

(1962): Fresh-Water and Salt-Water Boundary in the Groundwater of South-Central Manitoba.

(1964): Two Aquifer Tests in Winnipeg and Brandon Map-Areas, Manitoba

(1964): Groundwater Resources of Fannystelle Area, Manitoba. (1965): Groundwater Resources of the Emerson Area, Manitoba.

(1965): Groundwater Resources of Winnipeg Area, Manitoba.

Freeze, R. A.

(1963): Groundwater Probability, Virden, Manitoba.

HALSTEAD, E. C.

(1959): Groundwater Resources of the Brandon Map Area.

(1959): Bedrock Geology and Principal Aquifers, Brandon, Manitoba.

Hobson, G. D. et al.

(1964): Geotechnical Investigations Red River Floodway, Winnipeg, Manitoba.

Меувоом, Р.

(1964): Sketches Showing some Aspects of Groundwater Geology.

SCOTT, J. S. and RENDER, F. W.

(1964): Effect of an Alaskan Earthquake on Water Levels in Wells at Winnipeg and Ottawa, Canada.

THOMAS, J. F. J.

(1958): Churchill River and Mississippi River Drainage Basins in Canada, 1952-54.

(1959): Nelson River Drainage Basin in Canada, 1953-56.

(1959): Water Quality at some Canadian Military Establishments, 1956-57.

WATER CONTROL AND CONSERVATION BRANCH

(1964): Manitoba Water Well Drillers' Reports January 1 — December 31, 1963.

(1965): Manitoba Water Well Drillers' Reports January 1 — December 31, 1964.

Wyder, John Ernest

(1964): Reconnaisssance Resistivity Surveys in Southeastern Manitoba.

# PART III

# APPENDIX I. GOVERNMENT REPORTS

# 1. Annual and Miscellaneous Reports

GEOLOGICAL SURVEY OF CANADA

(1960-1964): Geological Maps Published by the Geological Survey of Canada. Geol. Surv. Canada, Index Sheets 52, 53, 54, 62, 63 and 64 (revised periodically).

MANITOBA MINES BRANCH

(1958-1965): Annual Reports (for period ending March 31, 1958 to 1965 inclusive).

(1963): Index of Core and Sample Storage, December, 1962.

(1963): Lower Palaeozoic Drill Stem Tests and Oil and Gas Shows Bakken to Precambrian, December, 1962.

(1963): Lower Palaeozoic Formation Tops Bakken to Precambrian, December, 1962.

MINERAL RESOURCES DIVISION, OTTAWA

(1958-1961): Canadian Mineral Industry, Mineral Reports 4, 5, 7, 8. (1962-1963): Canadian Minerals Yearbook, Mineral Reports 9, 10.

(1964): Canadian Minerals Yearbook, preprints.

Perroleum Engineering Division, Dept. of Mines and Natural Resources, Winnipeg (1955-1965): Cumulative Schedule of Wells.

(1960-1965): Oil Facts of Manitoba.

(1958-1965): Schedule of Wells and Crude Oil and Water Froduction. Statistics, monthly and annually.

Well Locations Map Series (6 maps) and Key List, with weekly

well activity supplements.

Crown Owned Oil and Gas Rights available for Disposition in Southwestern, South Central, and Southeastern Manitoba (3 maps).

Regulations Under the Mines Act for the Disposal of Oil and Natural Gas Rights on Crown Lands and the Exploration, Development and Production of Oil and Natural Gas in Manitoba.

The Pipe Line Act.

# 2. Geological Survey of Canada: Reports of Activities

(1962): Field Work, 1961; compiled by Jenness, S. E.

Geol. Surv. Canada, Information Circular No. 5 — Manitoba: pp. 42-46.

(1963): Summary of Research: Field, 1962; compiled by Jenness, S. E. Geol. Surv. Canada, Paper 63-1, 73 p.

50. Wekusko Lake Map-Area; Bell, C. K., p. 39.

51. Hydrogeological Study of the Red River Valley-Winnipeg Area; Charron, J. E., p. 39.

 Surficial Geology, Riding Mountain Area; Klassen, R. W., p. 41.

54. Marine Geology of the Churchill Estuary and Adjacent Area of Hudson Bay; Leslie, R. J., p. 41.
55. Greater Winnipeg Floodway; Murray, J. E. and Hobson,

G. D., p. 42.

56. Groundwater Resistivity Investigations; Wyder, J. E., p. 42.

- (1963): Summary of Activities: Office and Laboratory, 1962; compiled by Jenness, S. E.
  - Geol. Surv. Canada, Paper 63-2, 76 p.
    - Scaphites of the Bearpaw Formation and Equivalent Rocks of Alberta, Saskatchewan, and Manitoba; Jeletzky, J. A. and Cobban, W. A., p. 18.
    - 21. Outliers in the Canadian Shield; Liberty, B.A., p. 10.
    - 22. Microfossils from the Ordovician Red River Formation; Manitoba; McGregor, D. C., p. 11.
    - 64. Ship Magnetometer and Continuous Sub-Bottom profile Reconnaissance of Hudson Bay; Hood, P. J. et al, p. 33.
- (1964): Summary of Activities: Field, 1963; compiled by Jenness, S. E. Geol. Surv. Canada, Paper 64-1, 92 p.
  - 11. Seismic Refraction Survey, Hudson Bay; Hobson, G. D., p. 11.
  - 59. Hydrogeological Study of the Steinbach area; Charron, J. E., p. 42.
  - Surficial Geology, Riding Mountain Map-Area; Klassen, R. W., p. 42.
  - 117. Landslide Studies in Manitoba, Saskatchewan, and Alberta; Scott, J. S., p. 83.
- (1964): Summary of Activities: Office and Laboratory, 1963; compiled by Harker, P.
  - Geol. Surv. Canada, Paper 64-2, 119 p.
    - Outliers on the Canadian Shield; Liberty, B. A., p. 12.
    - Hydrogeological Study of the Steinbach area, Manitoba; Charron, J. E., p. 27.
  - Nine Reversed Refraction Seismic Profiles, Hudson Bay Lowlands, Manitoba; Hobson, G. D., pp. 33-40.
  - Cooperative Study of Lead Isotopes in Hudson Bay Bottom Sediments; Stevens, R. D., p. 63.
  - Groundwater Studies in the Assiniboine River Drainage Basin; Meyboom, P., p. 108.
- (1965): Report of Activities: Field, 1964; compiled by Jenness, S. E. Geol. Surv. Canada, Paper 65-1, 166 p.
  - 63. Groundwater Geophysics Surveys, Saskatchewan and Manitoba; Wyder, J. E., p. 92.
  - 65. Hydrogeological Reconnaissance of the Carberry Sand Plains; Carr, P. A., p. 95.
  - 66. Geological and Hydrogeological Study of Wilson Creek Basin; Carr, P. A., p. 95.
  - 67. Hydrogeology, Pine Falls Area; Charron, J. E., p. 96.
  - 68. Field Tests on Low Frequency Resistivity Equipment; Collet, L. S., p. 96.
  - 70. Surficial Geology Studies in Southwestern Manitoba and Southeastern Saskatchewan; Klassen, R. W., p. 98.
  - Geohydrology of the Oak River Drainage Basin, Manitoba;
     Lissey, A., p. 98.
  - 72. Devonian Biostratigraphy of Lake Manitoba Lake Winnipegosis area; Norris, A. W., p. 99.

- (1966): Report of Activities, May to October, 1965; Jenness, S. E., ed. Geol. Surv. Canada, Paper 66-1, 210 p.
  - 12. Aeromagnetic Survey of a portion of Central Hudson Bay; Hood, P. J. et al., p. 19.
  - 77. A Hydrogeological Study of the Stonewall Area; Charron, J. E., p. 137.
  - 78. The Measurement of the Resistivity of Surficial Deposits by Airborne Pulsed Electromagnetic Equipment; Collett, L. S., p. 137.
  - 79. Freliminary Reconnaissance, Surficial Geology, The Pas Area; Craig, B. G., p. 139.
  - 81. Surficial Geology Studies, Central and Southern Manitoba; Klassen, R. W., p. 141.
  - Geohydrology of the Oak River Drainage Basin; Lissey, A., p. 143.
  - 83. Devonian Biostratigraphy of Lake Manitoba Lake Winnipegosis Area, Norris, A. W., p. 143.
  - 127. Observation Well Project; Gilliland, J. A., p. 191.
  - 129. Seismic Investigations in Hudson Bay; Hobson, G. D., pp. 193-196.
  - 136. Groundwater Investigations, Ontario, Manitoba, and Saskatchewan; Farsons, M. L., p. 202.

#### 3. Manitoba Mines Branch

## McCabe, Hugh R.

(1966): Revised Stratigraphic Map Series:

- P-1 Palaeozoic Erosion Surface: structure contouroutcrop-subcrop.
- P-2 Palaeozoic Erosion Surface: structure contoursubcrop-detail for Swan River area (Twp. 33-38, Rge. 25-29).
- M-1 Mississippian Madison Group: isopach.
- M-2 Mississippian Erosion Surface: structure contoursuberop.
- M-3 Mississippian: structure contour on Middle Daly ("First Crinoidal") Member, Daly Field area.
- M-4 Mississippian: structure contour on Upper Virden ("Crinoidal") Member, Virden area (including Virden-Roselea, North Virden Scallion, Routledge, West Routledge and Maples fields).
- DM-1 Devonian-Mississippian, Bakken + Lyleton Formations: structure contour, isopach, subcrop.
- DN-1 Devonian Nisku Formation: structure contourisopach-subcrop.
- DD-1 Devonian Duperow Formation: structure contourisopach-subcrop.
- DD-2 Devonian Duperow Formation: structure contourisopach-subcrop, detail for Swan River Area (Twp. 33-38, Rge. 25-29).
- DSR-1 Devonian Souris River Formation: structure contourisopach-subcrop-outcrop.

- DSR-2 Devonian Souris River Formation: structure contourisopach-subcrop, detail for Swan River Area (Twp. 33-38, Rge. 25-29).
- DDB-1 Devonian Dawson Bay Formation: structure contour-isopach-subcrop-outcrop.
- DEP-1 Devonian Elk Point Group: structure contour-isopach-lithofacies-subcrop-outcrop.
- DPE-1 Devonian Prairie Evaporite Formation: structure contour-isopach-lithofacies.
- DW-1 Devonian Winnipegosis Formation: structure contour-isopach-subcrop-outcrop.
- DA-1 Devonian Ashern Formation: structure contour-isopach-outcrop.
- SI-1 Silurian Interlake Group: structure contour-isopach-subcrop-outcrop.
- OS-1 Ordovician Stonewall Formation: structure contourisopach-subcrop-outcrop.
- OSM-1 Ordovician Stony Mountain Formation: structure contour-isopach-subcrop-outcrop.
- ORR-1 Ordovician Red River Formation: structure contour-isopach-subcrop-outcrop.
- OW-1 Ordovician Winnipeg Formation: structure contourisopach-subcrop-outcrop.
- PC-1 Precambrian: structure contour depth to Precambrian.

# APPENDIX II. SHORT ARTICLES

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# APPENDIX III. PRECAMBRIAN MAPS WITH MARGINAL PALAEOZOIC ROCKS

## 1. Geological Survey of Canada

Map. No.

1726 Athapapuskow Lake.

1801 Reed and Wekusko Lakes.

96A Wanipigow, Manigotagan, and Oiseau Rivers.

135A Lower Churchill River.

268A The Pas.

314A Amisk Lake.

321A Elbow-Morton Area.

633A Schist Lake.

665A Wekusko.

807A Athapapuskow Lake.

906A Tramping Lake.

970A Kississing.

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51-17 Cranberry Portage (East Half).

24-1957 Ledge Lake.

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Pub. 50-2 Manigotagan-Rice River Area.

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